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Range extension for Grey-headed Tanager *Eucometis penicillata* in south-east Brazil

by Marcos Rodrigues & Henrique Belfort Gomes

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Large areas in South America have still never been visited by ornithologists (Silva 1995a). This is particularly true for the Cerrado region of central Brazil, which encompasses 1.8 million km² (Silva 1995b), and the semi-arid region of Caatinga in north-east Brazil, extending to 0.9 million km² (Sampaio 1995, Pacheco 2000). This paper describes the geographic distribution of a forest bird of South America, Grey-headed Tanager *Eucometis penicillata*. Although common, the species has been systematically overlooked in south-east Brazil by all bird compilations published so far.

Grey-headed Tanager is an Oscine passerine member of the Thraupini tribe of the Emberizinae subfamily Fringillidae (Sibley & Monroe 1990). This tribe encompasses 413 species distributed mainly in the Neotropical region (Sibley & Monroe 1990). *Eucometis* is a monotypic genus occurring from southern Mexico to

south-eastern Brazil and varies in size and plumage over its range, where seven subspecies are recognised (Nordgaard-Olesen 1974, Isler & Isler 1987). *Eucometis penicillata albicollis* is the race that occurs mostly in the Cerrado region of central Brazil, north-eastern Paraguay and eastern Bolivia (Nordgaard-Olesen 1974, Isler & Isler 1987). Here, we follow the Ab'Saber (1977) definition for the Cerrado. The region includes most areas of the states of Mato Grosso, Mato Grosso do Sul and Tocantins; western Minas Gerais and Bahia; southern Maranhão and Piauí; all of the state of Goiás and the Distrito Federal; north-eastern Paraguay and eastern Bolivia (see Silva 1995a for a detailed description of the area).

Eucometis penicillata albicollis inhabits forest undergrowth and thickets, always near river edges (Isler & Isler 1987, Sick 1997). According to Silva (1995a), Grey-headed Tanager is a forest-dependent species, and in the Cerrado region it is associated with gallery forests. According to Ridgely & Tudor (1989), the species' abundance ranges from uncommon to locally fairly common.

The first report of Grey-headed Tanager in the Brazilian Cerrado region came from Pelzelin (1870) who organised the diary and skins of Johannes Natterer, a pioneer collector of the Brazilian fauna. Although Natterer had also travelled in the west of Minas Gerais, the seven specimens of Grey-headed Tanager were collected only in the states of Goiás and Mato Grosso (Pelzelin 1870). Pinto (1952) reviewed the bird collections made in the state of Minas Gerais and Grey-headed Tanager was not included in his annotated list. Schaeueensee (1970), in his classic *A guide to the birds of South America*, documented the occurrence of Grey-headed Tanager in Brazil in the states of Mato Grosso, Goiás and São Paulo. Later, in a monograph of the Thraupini, Norgaard-Olesen (1974) set the distribution of *E. penicillata albicollis* as being from east Bolivia to south-central Brazil (from Mato Grosso and Goiás southwards to north-west São Paulo). In the first edition of Helmut Sick's *Ornitologia brasileira* (1985), Grey-headed Tanager was stated to occur in Goiás, western São Paulo, and east of Pará and Maranhão. Once again, the species appeared to not occur in Minas Gerais. The same distribution was assigned by Isler & Isler (1987), although their map for *E. penicillata albicollis* did include the extreme west of Minas Gerais, in the gallery forests of the rio Paranaíba, a major tributary of the Paraná basin, and inland towards the east, in a region known as 'Triângulo Mineiro' (Fig. 1). This distribution was essentially followed by Ridgely & Tudor (1989) and Sibley & Monroe (1990), although the latter authors did not include Minas Gerais in the species' distribution. In 1997, a second edition of Sick's *Ornitologia brasileira* was reviewed and enlarged by J. F. Pacheco, who included Grey-headed Tanager for Minas Gerais, although the source for such information was not given.

Subsequent reference books have shown that in Minas Gerais Grey-headed Tanager is confined to the extreme west of the state, in the 'Triângulo Mineiro' region, possibly extending to the headwaters of the rio Paranaíba and its tributaries, more or less at the longitude of São Gotardo (approximately 46°00' W) (see Fig. 1).

In fact, a recent paper on the effects of forest fragmentation on birds of the Cerrado, conducted in the 'Triangulo Mineiro' region, found Grey-headed Tanager to be a common resident of fragments as small as 7.5 ha (Marini 2001).

We have been working since 1999 on the ecology of landbirds at the Parque Nacional da Serra do Cipó (hereafter Parque), municipality of Jaboticatubas, some 300 km east of the headwaters of the rio Paranaíba (Rodrigues *et al.* 2000a, 2000b, Rodrigues & Carrara in press). On two separate occasions we were able to observe and capture Grey-headed Tanager. The Serra do Cipó is the name of a portion of the Espinhaço Range, a mountain chain with peaks reaching 1,700 m that cross from south to north through most of Minas Gerais, separating two important biomes in its central and southern portion: the Cerrado on the western slope and the Atlantic Forest on the eastern slope (Ab'Saber 1977, Giuliatti *et al.* 1997).

Our first sighting of Grey-headed Tanager at the Parque was made on 29 August 1999, in the closed undergrowth of tall gallery forest of the rio Mascates, a tributary of the rio Cipó, at c.800 m altitude, at the base of the Farofa waterfall (19°22'S, 43°35'W). On the second occasion, on 13 October 2001, we captured a Grey-headed Tanager in a mist-net within dense thickets 10 m from the banks of the rio Cipó (19°20'S, 43°36'W), near the Parque headquarters (c.800 m altitude). The areas differ from each other in the sense that the Farofa waterfall forest is much better preserved than the young thicket stage, although the river they follow is the same.

This sight record and capture of the Grey-headed Tanager extends its known range some 400 km eastwards. In addition, our records show that it occurs at the edge of the Cerrado region, and on the east bank of the rio São Francisco basin.

However, these are not the first records of Grey-headed Tanager in the Serra do Cipó west-slope region. Willis & Oniki (1991) had recorded the bird during surveys of eight sites in Minas Gerais in 1977 and 1978. Grey-headed Tanager was recorded on the west bank of the rio Cipó, in a patch of deciduous woodland near to the road 88 km from Belo Horizonte. This record was published in a paper on cloacal temperatures of some birds of Minas Gerais by Oniki (1980) and a paper on its behaviour by Willis (1985).

We have searched for other possible records of Grey-headed Tanager in Minas Gerais using available faunal lists in the literature and in the collection of the Universidade Federal de Minas Gerais. The results are shown in Table 1 and plotted in Fig. 1.

Discussion

Specimens of Grey-headed Tanager have been collected in Minas Gerais since the late 1960s. Although the entire state has suffered great human impact since Brazilian colonial times, major changes such as deforestation, leading to severe fragmentation, occurred in its Atlantic portion, east of the Espinhaço Range (Dean 1996). The Cerrado region of Minas Gerais started to be heavily modified in the

TABLE 1

Records of Grey-headed Tanager *Eucometis penicillata* in the state of Minas Gerais, south-eastern Brazil. The source labelled DZ refers to the ornithological collection of the Universidade Federal de Minas Gerais.

Locality	Municipality	Date	Source
Rio São Miguel, Vale do Urucuia	Arinos	21 September 1969	DZ 2114
Cardeal Mota (19°21'S, 43°37'W)	Santana do Riacho	1977–1978	Oniki 1980, Willis & Oniki 1991
Fazenda Jaguará (19°29'S, 44°00'W)	Lagoa Santa	1987	Christiansen & Pitter 1997
Mata da Barrigud	Pedrinópolis	30 August 1987	DZ 2113
UHE-Bocaina	Coromandel	2 May 1988	DZ 2111
Fazenda da Mata (18°30'S, 48°03'W)	Araguari	1994–1996	Marini 2001
Cruzeiro dos Peixotos (18°46'S, 48°21'W)	Uberlândia	1994–1996	Marini 2001
Fazenda Exp. do Glória (18°52'S, 48°13'W)	Uberlândia	1994–1996	Marini 200
Reserva Biológica do Panga (19°11'S, 48°21'W)	Uberlândia	1994–1996	Marini 2001
Granja Marileuza (18°52'S, 48°15'W)	Uberlândia	1994–1996	Marini 2001
Farofa waterfall (19°22'S, 43°35'W)	Jaboticatubas	2000	this work
Parque headquarters (19°20'S, 43°37'W)	Jaboticatubas	2002	this work
Fazenda Brejão, west bank of the rio Paracatu	Brasilândia de Minas	2002	M. Rodrigues unpubl. data
Fazenda Santa Cruz (17°00'S, 46°00'W)	Felixlândia	2002	DZ 3478

early 1960s, following the building of Brasília, the capital of Brazil, in the Brazilian Central Highlands. So, it is reasonable to think that Grey-headed Tanager had been present, at least on the west bank of the rio São Francisco basin, much earlier than this. Grey-headed Tanager is associated with gallery forests, which form a dense network within the Cerrado region. This network of forests makes contact with all hydrological basins in the Cerrado region of Minas Gerais, namely the São Francisco and the Paraná basin (rio Paranaíba and rio Grande), and which in turn are connected to the Araguaia basin of Goiás state. With this background, one could have predicted the occurrence of Grey-headed Tanager east of the rio São Francisco and towards the rio Grande in the south. The rio São Francisco does not seem to

have been a geographical barrier to the range of Grey-headed Tanager. So why has Grey-headed Tanager been overlooked here for so long? We put forward three, not exclusive, possible explanations.

The first, as illustrated by Silva (1995b), is that most of the Cerrado region area has never been visited by ornithologists. Very few published and complete bird surveys have been undertaken in the Cerrado of Minas Gerais (see historical account in Pinto 1952, and also Willis & Oniki 1991, Melo-Junior *et al.* 2001). As this area covers more than 200,000 km², the need for surveys must be emphasised.

The second is that Grey-headed Tanager has been extending its range in the past 40 years due to global and regional climatic changes, a phenomenon already observed in other bird species (Willis & Oniki 1985). According to Silva (1996), those bird species that depend on gallery forest have expanded and/or are expanding their ranges into the Cerrado region from their centres of distribution. He showed that Amazonian elements occurring in the Cerrado are restricted to its

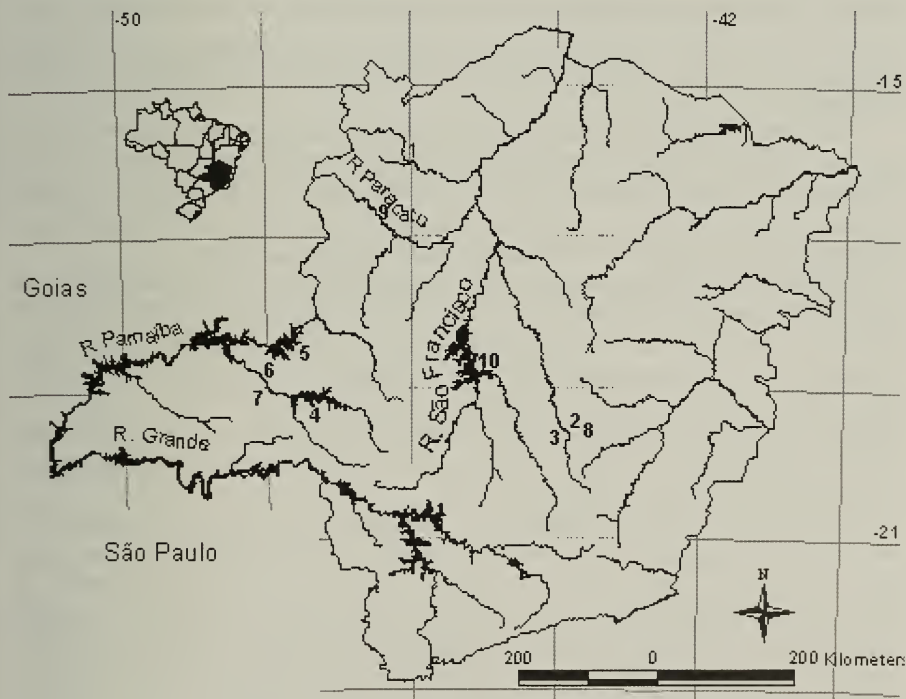


Figure 1. Major river basins of the Cerrado region of Minas Gerais and recent records for Grey-headed Tanager *Eucometis penicillata* in chronological order. 1, Arinos; 2, Santana do Riacho; 3, Lagoa Santa; 4, Pedrinópolis; 5, Coromandel; 6, Araguari; 7, Uberlândia; 8, Jaboticatubas; 9, Brasilândia de Minas; 10, Felixlândia.

peripheral depression and low-altitude plateaux. This is not the case for Grey-headed Tanager, a bird species not considered in Silva's (1996) analysis. Grey-headed Tanager is an Amazonian element within the Cerrado region, but not restricted to peripheral depressions near the border of the two biomes. In fact, according to the data presented here, Grey-headed Tanager occurs at the border of Cerrado–Atlantic forest domain on the top of the plateau, as demonstrated by the Serra do Cipó individuals. Perhaps Silva (1996) could not include Grey-headed Tanager in his dataset because all of the localities presented in the current paper were not accessible at that time. Therefore, with the data available nowadays, it is difficult to determine if Grey-headed Tanager is expanding its range. However, a few 19th-century naturalists made comprehensive bird collections within the Cerrado of Minas Gerais, but Grey-headed Tanager did not appear in any of those collections (Pinto 1952). A good example is the large bird collection made by the Danish naturalists Peter Lund and J. Reinhardt between 1835 and 1855 in Lagoa Santa, a locality on the border of the Cerrado and Atlantic domains (Reinhardt 1870 *in* Pinto 1952, Warming 1908). Lund and Reinhardt did not collect or observe Grey-headed Tanager. More than 100 years later, Grey-headed Tanager was observed by Christiansen & Pitter (1997) at the very same locality surveyed by Lund and Reinhardt.

The third is that ornithological surveys have been insufficiently comprehensive to detect such an inconspicuous, although common, species. Most surveys do not show the 'species accumulation curve', a simple graphic tool that gives researchers a clue as to whether they have detected most species of a particular region. Moreover, most surveys have not used mist-nets or tape-recorders.

Therefore, if a common and possibly widespread bird has been overlooked for years, what about rare, inconspicuous, or even endemic species? As the number of professional ornithologists grows in Brazil, new localities for endemic species, and even new taxa, are being discovered (e.g. Vasconcelos *et al.* 2002). For instance, from 1983 to 1998, 17 new bird species were described from Brazil. Of those, 14 species were found in localities close to densely populated parts of south-eastern Brazil (Vasconcelos *et al.* 2002). We still need to assess the impact of these findings on our biodiversity pattern analysis.

Development of the understanding of the global distribution of biodiversity is one of the main objectives for ecologists and conservation biologists. Recent years have produced a large number of studies documenting broad-scale patterns of biodiversity (e.g. Bibby *et al.* 1992). Many of these studies have directly explored the implications of these patterns for conservation biology (e.g. Myers *et al.* 2000). However, we indicate here that more attention should be addressed to the completeness and accuracy of field data collection at the level of local study plots (Gaston 2000). The consequences of underestimation of diversity can go far beyond academic circles, since decision-makers are increasingly basing their policies on our scientific research.

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The correct name of the Afrotropical mainland subspecies of Barn Owl *Tyto alba*

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In a recent account of the barn owl family (Tytonidae) by one of us (Bruce 1999), MDB retained the Barn Owl *Tyto alba* population of Fernando Po (Bioko) as the endemic subspecies *poensis* (Fraser 1843), leaving all other Afrotropical birds (except *thomensis* (Hartlaub 1852) of São Tomé) as *affinis* (Blyth 1862). MDB also pointed out that if *poensis* is not recognised, then it replaces *affinis* because it is the oldest available name. However, several recent and influential works that have not accepted *poensis*, have nevertheless used the name *affinis* for mainland birds (Fry *et al.* 1988, König *et al.* 1999, Borrow & Demey 2001).

It is of interest to note that Blyth, the describer of *affinis*, subsequently wrote: 'S. *affinis*, nobis (Ibis, 1862, p. 388), from South Africa, proves to be S. *poensis*, Fraser' (1866: 251). This interpretation was followed by Gray (1869). In Sharpe's revision of the species and family (1875) he merged a large number of the named